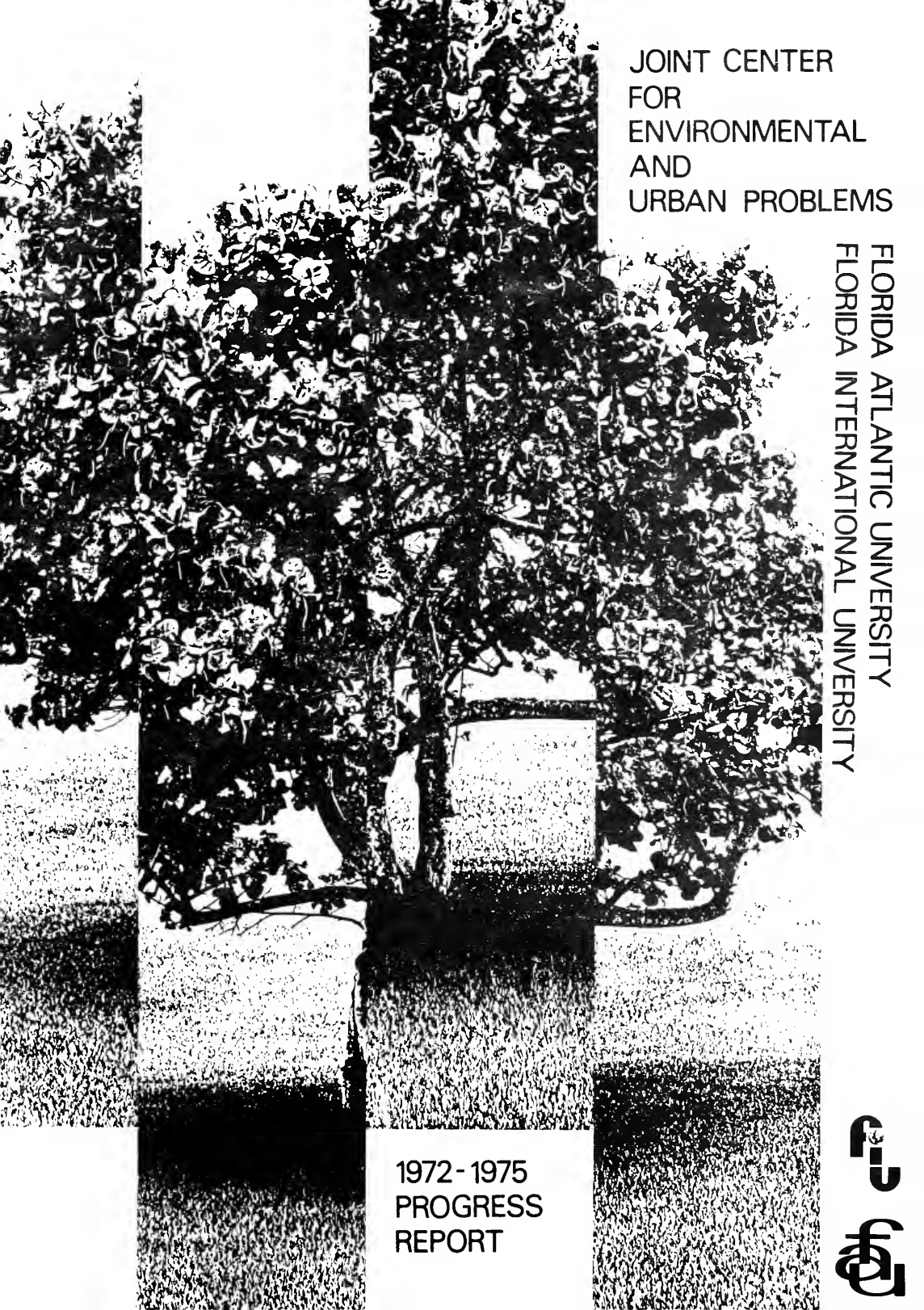


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JOINT CENTER
FOR
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AND
URBAN PROBLEMS

FLORIDA ATLANTIC UNIVERSITY
FLORIDA INTERNATIONAL UNIVERSITY

1972 - 1975
PROGRESS
REPORT



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THREE YEAR PROGRESS REPORT

July 1, 1972 - June 30, 1975

Florida Atlantic
University

Florida International
University

Joint Center for Environmental and Urban Problems

John M. DeGrove
Director

1515 W. Commercial Boulevard
Fort Lauderdale, Florida 33309



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SUMMARY OF

THREE YEAR PROGRESS REPORT July 1, 1972 - June 30, 1975

Florida Atlantic University/Florida International University Joint Center for Environmental and Urban Problems

The FIU/FAU Joint Center for Environmental and Urban Problems was established by the Florida Legislature in 1972. It has been funded since then at about the same level of funding each year: about \$250,000. The Center has as its prime objectives the following:

- A. to serve as a catalyst to encourage regional approaches to urban and environmental problems in the South Florida area by both the public and private sectors;
- B. to fund on a limited basis applied research projects that aim at helping solve urban and environmental problems in the short run and in a specific fashion -- for example, model noise control ordinances; standards and guidelines for the protection of mangrove areas; and short term forecasts of criminal activity in Florida. A total of about 30 such efforts were funded through June 30, 1975, which also served to stimulate general faculty involvement in such problems;
- C. to conduct in-house applied research projects that will contribute in concrete ways to the solution of current urban and environmental problems in South Florida in particular, and the state in general -- for example, a continuing monitoring of the implementation of Florida's land and water management legislation, and a fiscal, functional, and organizational profile of Florida's metropolitan counties;
- D. to conduct applied research especially needed by state executive and legislative units in the urban and environmental areas -- for example, in the growth management and housing areas for the Governor's Office, the Division of State Planning, the Department of Community Affairs, and relevant committees of the legislature;
- E. to conduct applied research by contract with local, state (and occasionally federal) agencies in environmental and urban areas -- for example, Integrated Service Delivery Systems Project (Dade County); Administrative Aspects of a Transportation System (Broward County); and the development of a handbook to guide cities and counties in Florida on how to use inter-local agreements to solve areawide problems (Department of Community Affairs);
- F. to disseminate the results of the Center's applied research efforts through seminars and workshops, and through the publication of Florida Environmental and Urban Issues;
- G. to generally stimulate a stronger and more consistent role by the two state universities in South Florida in addressing the tough urban and environmental problems of the region and of the state.

JOINT CENTER STAFF

John M. DeGrove, Director
James C. Nicholas, Assistant Director - FAU
Jack Parker, Assistant Director - FIU
Joseph Thomas, Research Associate
Carolyn Lawrence, Research Associate
Linda Gortmaker, Research Associate
Debi Athos, Research Associate
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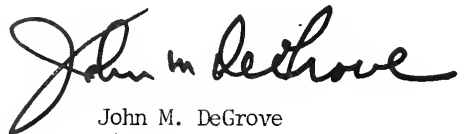
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FROM THE DIRECTOR

This progress report on the FAU-FIU Joint Center for Environmental and Urban Problems describes the nature and scope of the Joint Center's research efforts during the last academic year, and for the first three years of the Joint Center's existence (July 1, 1972 - June 30, 1975).

During this fourth year for the Joint Center, our research continues to focus not only on the land use/growth management issues that accompany Florida's unique environment and new development, but also on other tough problems urban governments face during this transitional period in American history. A prime concern since the Joint Center's establishment has been the monitoring of significant state environmental legislation, especially the Environmental Land and Water Management Act of 1972. Future plans call for continued close evaluation of these crucial laws in terms of their effectiveness and responsiveness to overall state growth policy goals.

As the report on the Center's growth and progress indicates, the Joint Center's primary role continues to be as a catalyst and coordinator for state, regional and local public and private groups to solve present and future urban and environmental problems. By using the resources of both Florida Atlantic University and Florida International University, our own staff and special outside expertise, we have successfully completed a variety of applied research projects and look forward to upcoming challenges that will produce useful results.



John M. DeGrove
Director

1972: ESTABLISHMENT OF THE JOINT CENTER

Created in July 1972 by the Florida Legislature and the Board of Regents, the Joint Center is the applied research arm of the two state universities in South Florida. In this role, the Joint Center works to link talent at Florida Atlantic University and Florida International University to major environmental and urban problems in the South Florida area and the state at large. Whether the Joint Center is analyzing state legislation or growth management techniques or is conducting a workshop for local officials on county charter government, the Center's primary emphasis is on applied research as both a catalyst and coordinator to assist state, regional and local private and public groups.

* * * * *

The operation of the Joint Center is primarily based on the assumption that many of the crucial environmental and urban problems of the South Florida area do not recognize political boundaries. Thus, much policy-making and future planning must incorporate improved cooperation among political entities on a regional basis.

To help solve these problems, the Joint Center has functioned as a catalyst in coordinating and supporting private and public efforts. The focus of the Joint Center's effort has been on applied research and services, not on teaching. The major effort of all Center-conducted and Center-funded research is aimed at producing and making available research results to private and public agencies attempting to deal with environmental and urban problems.

OBJECTIVES

Specific objectives of the Joint Center include:

1. Establishing and sustaining an academic-based, applied research-oriented organization in the South Florida area.
2. Serving as a catalyst to achieve governmental and private cooperation to solve present and future environmental and urban problems.
3. Encouraging and providing financial support for applied research projects involving the FAU and FIU faculty, Joint Center staff and consultants to seek solutions to environmental and urban problems in South Florida.
4. Establishing a positive and cooperative relationship between the Joint Center and state government (particularly the legislative and executive branches) regarding environmental and urban issues.
5. Providing professional research assistance to local governments, disseminating information to public interest groups, and conducting inventories of regional needs.
6. Establishing a liaison with other agencies concerned with environmental and urban problems in the region and state and, whenever possible, to coordinate research efforts and data.
7. Facilitating interdisciplinary research by serving as a bridge among disciplines in the two universities.
8. Organizing workshops for state and local government agencies and citizen groups, and assisting such groups in developing research proposals for acquiring public and private funds for various projects.
9. Structuring and developing an extensive computerized data archive for the region.

10. Publishing the bi-monthly journal, Florida Environmental and Urban Issues, to disseminate applied research results and other articles on environmental and urban problems, and other publications such as the annual report, speeches and special studies.

FUNDING

Primarily funded by the state legislature through the Board of Regents, the Center also receives financial support through contracts from state and local agencies (such as Dade County, the State Department of Community Affairs and Division of State Planning), private agencies, and federal funds from such sources as the Advisory Commission on Intergovernmental Relations (ACIR) and Title I of the Higher Education Act.

JOINT CENTER RELATIONSHIP TO GOVERNMENT

As an applied research institution the Joint Center performs a service function for not only city, county and regional agencies in South Florida but for the state government as well. The Joint Center serves as a resource for these agencies when they are faced with environmental or urban problems, or simply when they need expertise to aid in their public decision making. Whether the Joint Center's staff is contracting with these agencies for technical assistance or providing immediate, need-to-know types of information, the Joint Center is ready to meet these needs. The Center's establishment by the legislature in 1972 evidences the state's desire to make the resources of the university community accessible and useful to practitioners for state, county, regional and city agencies.

State Government

From its inception, the Joint Center has established a special relationship with the Executive and Legislative branches of state government.

For example, the Director has testified before legislative committees and appeared on panels, participated in legislative seminars, and responded to requests for assistance in drafting key legislation in the urban and environmental area. The Center has contracted with various state agencies such as the State Division of Planning and Department of Community Affairs, in addition to serving in an advisory role to not only these agencies but others at the state level. The Assistant Director for the FIU campus was appointed to the Governor's Advisory Commission on Transportation in 1975.

Local, Regional Agencies

In addition to workshops and seminars that carry applied research project results to local government officials and civic groups, the Joint Center's local government focus includes providing technical assistance to such units as Dade, Broward and Palm Beach Counties, various municipalities, the South Florida Regional Planning Council, and numerous other agencies.

Interstate and National Bodies

Viewed primarily as a state-local-university-oriented applied research center, the Joint Center's interstate and national focus is a necessary supplemental activity that lends perspective and significance to policy information efforts at the state and local levels. Interaction with other states and federal branches of government has been a constant factor of the Center through activities of the Director and other professional staff members. Typical of this linkage is the active membership of the Director on such national groups as the National Academy for Public Administration's special panels; his affiliation as a monitor on revenue sharing for the Brookings Institute; and his membership on the Southern Growth Policies Board.

CENTER ACTIVITIES - 1974-75

RESEARCH PROJECTS - 1974-75

The Joint Center's applied research activities fall into three funding categories: 1) applied research grants awarded to faculty members of Florida Atlantic University and Florida International University; 2) "in-house" applied research projects of special use to state and local governments that are funded through the Joint Center's annual budget allocation from the legislature; and 3) grants and contracts with state, local, federal and private agencies in the area of environmental and urban problems.

Applied Research Projects by Faculty

In the three year period from July 1, 1972, through June 30, 1975, the Joint Center awarded a total of approximately \$150,000 in applied research grants to faculty members at the two universities. The amounts of individual grants varied from \$2,000 to \$10,000 and covered a wide range of topics from forecasting demands for policy services to analysis of storm water run-off in the Miami River canal system. One objective behind this applied research program is to encourage faculty at the two universities to conduct research on those environmental and urban problems in the South Florida area that currently concern local governments and citizens. These research activities are aimed at:

- providing the academic researcher an opportunity to study and deal with practical problems while assuring research of a reliable nature through adherence to sound research methods.

- formulating and proposing public alternatives for state and local governments and other public and private agencies to help resolve existing problems.
- creating a body of knowledge which can be published and circulated by the Joint Center to interested groups not only in South Florida but throughout the state and nation.

A Project Review Committee consisting of four persons from each University evaluates and acts on each proposal presented to the Joint Center for funding. Project Review Committee members for 1975-76 are:

FLORIDA ATLANTIC UNIVERSITY

James Nicholas, Economics
Alex Marsh, Biology
Stanley Dunn, Ocean Engineering
Don Clare, Public Administration

FLORIDA INTERNATIONAL UNIVERSITY

Alan Parker, Business
Tom Casey, Economics
Jack Parker, Physical Sciences
Dan Jackson, Environmental and Urban Systems

"In-House" Research and Grants, Contracts

Coordinating and conducting the "in-house" projects and research funded by grants and contracts from outside agencies is the Joint Center's professional staff consisting of the Director, two part-time Assistant Directors (one at FAU and one at FIU), and three to five full-time research associates aided by a flexible number of graduate assistants and clerical staff.

During the academic year 1974-75, the Joint Center's professional staff

concentrated its research efforts on the general subject areas of land-use/growth management, local government service delivery/productivity problems, county government structure and organization, and economic studies. Specifically, these topics include the projects described in the following pages.

The research projects for 1974-75 are divided into two general categories of "environmental" and "urban." Within each category, the projects are further broken down into 1) those projects conducted as "in-house" studies or those funded by outside grants and contracts and 2) applied research grants awarded faculty members at the two universities.

ENVIRONMENTAL

Land Use/Growth Management

Since the early 1970s, the State of Florida has pioneered in far-reaching legislative actions to develop land use policies and to implement mechanisms for controlling and monitoring environmental resources and growth. The passage in 1972 of four key laws (The Environmental Land and Water Management Act, the Water Resources Act, the State Comprehensive Planning Act and the Land Conservation Act) signaled official commitment to a tough, new state policy that moved Florida into its present leadership role. The Joint Center had conducted on-going studies specifically of the implementation record of the Environmental Land and Water Management Act and is continuing to evaluate its effectiveness and responsiveness to overall state growth policy goals.

During the academic year 1974-75, the Joint Center's participation in monitoring and analyzing this growth management legislation consisted of the following specific "in-house" research and grants and contracts:

STUDIES IN DEVELOPMENTS OF REGIONAL IMPACT

PROJECT DIRECTOR: Joseph Thomas, Research Associate,
Joint Center for Environmental and Urban Problems

The Joint Center published in December 1974, a report that provided a policy analysis of Florida's key decision-making tool used by local governments to evaluate state and regional concerns in making land use decisions. This mechanism is the Development of Regional Impact (DRI) process, and the study was prepared by the Center for the Division of State Planning in Tallahassee.

During 1975, the Joint Center has initiated other "in-house" research projects related to the Environmental Land and Water Management Act. Supervised by Research Associate Joseph Thomas, two graduate assistants are conducting projects on two different facets of the act. The first project is aimed at determining the extent to which DRI projects approved in Broward County are required to comply with stipulations made in the approval of the development order. The second effort involves conducting on-site discussions with local officials in Monroe County (the Keys) to determine the dynamics of intergovernmental relationships once the Keys were named an Area of Critical State Concern.

CAREERS IN ENVIRONMENTAL GROWTH MANAGEMENT

PROJECT DIRECTOR: Joseph Thomas, Research Associate
Joint Center for Environmental and Urban Problems

Supported by a grant from the Jessie Smith Noyes Foundation, Inc., in New York, this program supports seven graduate assistantships during the 1975-76 academic year. Participants work in a small group in a setting of applied research, direct participation with environmental/growth management agencies and research project preparation. Agencies that have become involved include the Central and Southern Florida Flood Control District, the South Florida Regional Planning Council, the Broward County Commission and the

Division of State Planning.

Students are enrolled as full-time graduate students and work twenty hours a week at the Joint Center and "on-site" developing a research design, collecting data and developing a research project.

The research projects being conducted by these students include:

*"A Comparative Analysis of Inter-Intra Governmental Interaction, and Interaction Between Levels of Government and the Private Sector"

*"A Policy Analysis of the Areas of Critical State Concern"

*"Comparative Analysis of Major Development Reviews"

*"The Central and Southern Florida Flood Control District and the DRI Process"

*"Broward County Growth Management Study"

APPLIED RESEARCH GRANTS BY FACULTY AT FAU AND FIU

The following projects were funded during the 1974-75 academic year and pertained to environmental concerns:

DETERMINATION OF AMBIENT LEVELS OF FLUORINATED HYDROCARBONS IN INDOOR ENVIRONMENTS

PROJECT DIRECTOR: John H. Parker, Associate Professor
Department of Physical Sciences
Florida International University

This study attempts to develop techniques to determine the quality of indoor air with specific attention to the levels of fluorinated hydrocarbons (freons). While the major emission sources of freons are household aerosol products which use freons as propellants, freons may also be generated indoors through coolant leakage from air conditioning systems.

The purpose of this investigation is to formulate and apply quantitative sampling and analysis techniques for the determination of the following: 1) normal ambient concentrations of freons in air-conditioned and un-air-conditioned

residences; 2) levels of exposure of humans to freons immediately after use of aerosol products with freon propellants; 3) circulation and dispersion patterns of aerosol-produced freons in air-conditioned and un-air-conditioned residences; and 4) the contribution which leakage of air conditioner coolant makes to ambient indoor concentrations of freons.

The project results will be used to document the extent of danger associated with extensive use of freon-propelled aerosols, to determine exposure levels and to establish air quality standards for freons. Of special significance to South Florida, the concentration levels of freons and their circulation patterns in air-conditioned homes may indicate whether or not these relatively closed structures are pollutant traps and thus cause increased health risks to occupants. The data may also suggest design changes in home cooling systems to minimize freon accumulations.

ELEMENTAL ANALYSIS OF AIR AND WATER SAMPLES IN DADE AND BROWARD COUNTIES

PROJECT DIRECTOR: K. A. Hardy, Associate Professor
Department of Physical Sciences
Florida International University

Air and water sampling will be conducted in Dade and Broward Counties, both in congested downtown areas as well as more remote areas.

An interim report on this study concluded that "air particulate matter in South Florida is close to natural levels, except at the most urbanized sampling sites, with the exception of lead and bromine which are generally of automotive pollution origin. In urban areas high values of elements in large particle fractions can be attributed to soil dust."

This sampling project follows the basic objectives of the Joint Center in developing environmental indicators that will measure, in a quantitative way, any change in the environment of South Florida. Systematic analysis of

air and water samples with a method that is not specific to a particular element will certainly be a useful indicator of any change in the South Florida environment.

So far, the study has produced a unique collection of data on the size distributions of particles in the South Florida air, and the project has produced cooperative relationships with such agencies as the Dade County Air Pollution Control Board, U. S. Department of Agriculture and the Environmental Protection Agency.

DEVELOPMENT OF A LITTER-FREE BAIT CONTAINER

PROJECT DIRECTOR: Kathryn R. Williams, Assistant Professor
Department of Physical Sciences
Florida International University

This project is aimed at helping to alleviate the litter around canals and lakes created by the discarded white styrofoam cups used to hold bait for fishing. Initial research considers substituting cups made of peat moss (presently used as starter pots for plants) for the styrofoam type. The advantages of using the peat moss cup versus the paper carton, the styrofoam cup and the metal can will be analyzed in terms of 1) ability to insulate the contents from extreme external temperatures; 2) ability to transfer oxygen from the air to the worms inside; 3) overall lifetime of worms kept; and 4) relative cost and availability.

VEGETATION MAPS AS A GUIDE FOR PLANNING IN SOUTH FLORIDA

PROJECT DIRECTOR: Daniel F. Austin, Associate Professor
Department of Biological Sciences
Florida Atlantic University

Data for vegetation maps of the Atlantic Coastal Ridge of Broward and Palm Beach Counties will be produced from this project to help land planners achieve a better picture of pollution, water resources and rare and endangered

wildlife in a given area. Plant communities are excellent indicators of soil types, elevations, geologic formations and probability of flooding during severe storms. This project will also produce data describing these plant communities including dominant or characteristic species, soil types in the major communities and elevations of communities.

SOME BIOLOGICAL AND CHEMICAL CHARACTERISTICS OF STORM WATER RUN-OFF IN THE MIAMI RIVER CANAL SYSTEM

PROJECT DIRECTOR: David R. Barker, Associate Professor
School of Technology
Florida International University

This project will monitor water quality from the outfalls of the Miami River Canal between Pennsuco and Hialeah, a water area that plays a major water supply role for the City of Miami. Results from regular sampling of this water will include biological and chemical data that can be correlated with the quality of the land use operation associated with the storm outfall. An analysis of these data in relation to the background quality of the water is aimed at the possibility of assigning various degrees of sanitary significance to each outfall and to obtaining a better understanding of the water quality of storm run-off. These results can then be used to eliminate or correct the outfalls with the end result being some control over canal pollution.

THE INFLUENCE OF METALLIC COATINGS AND ATTACHMENTS UPON REBAR CORROSION OF CONCRETE BRIDGES IN SEA WATER

PROJECT DIRECTOR: William M. Hartt, Associate Professor
Department of Engineering
Florida Atlantic University

Experiments directed toward revealing the influence of attachment pipelines on concrete bridge structures (such as those connecting the Keys in Monroe County) will be performed. It is anticipated that the results from

the project will be directly applicable to Florida Department of Transportation personnel and practices. Specifically, it is expected that the attachment model experiments will evolve criteria for permitting such attachments on bridges and thereby greatly enhancing structure life. The coated rebar experiments should yield positive materials selection criteria for future bridge construction in marine surroundings.

OTHER PROJECTS

In late summer 1975, negotiations involving two other "environmental" projects funded by outside grants were completed. They include:

1) GROWTH WITH ENVIRONMENTAL AWARENESS

PROJECT DIRECTOR: Carolyn Lawrence, Research Associate
Joint Center for Environmental and Urban Problems

Funded by a Title I HEA grant, this project is a cooperative effort with the Pine Jog Environmental Center in West Palm Beach. The project is geared toward the public official or environmentally-aware lay citizen in the South Florida area who wants to increase his/her knowledge in environmental problems. Staff at the Pine Jog center will conduct workshops related to the physical aspects of environmental issues while the Joint Center will hold sessions dealing with the political, social and economic ramifications of such issues.

2) CARRYING CAPACITY STUDY IN THE GREEN SWAMP

The Joint Center's role in this project includes exploring/developing ways to insure that public officials will be able to use the study outputs of the Carrying Capacity project as inputs for decision-making. In conducting this study the Joint Center will: 1) take a preliminary look at the land use decision-making process in the 17 county (SWFWMD) area; 2) get an overview of the relevant legal issues involved and 3) identify and analyze the state/local

laws, policies, and resource (personnel) constraints that might inhibit the adoption of a carrying capacity policy in the area.

This project is one component of the Carrying Capacity study being conducted by Professor Harry Merritt and his colleagues at the University of Florida and other participating universities in the State University System. The final Carrying Capacity report will present digitized maps and supporting narrative describing all land/water areas in the SWFWMD area in one of three basic categories of use (both current and natural): urban, agricultural and local. The Carrying Capacity model is designed to identify planning options, not to make definitive local planning decisions.

URBAN

Service Delivery/Productivity Management

Throughout the 1974-75 academic year, the Joint Center received a number of grants and contracts to study service delivery and productivity management in government structures in South Florida and elsewhere in the State. In addition, applied research grants were awarded to two faculty members with proposals focusing on this area. These various projects--conducted and coordinated by Joint Center staff and those conducted by faculty members--included:

COMPARATIVE ANALYSIS OF GOVERNMENTAL REFORM ATTEMPTS

The Joint Center staff, in partnership with the Maxwell School at Syracuse University, completed work on a planning grant from the National Science Foundation to look at the impact of structure on service delivery systems in Rochester, New York, and Tampa, Florida, metropolitan areas. Joint Center staff members surveyed data available in the area for ultimately performing an evaluation of the effects of structural change on service delivery systems. They also coordinated the research project with other comparable

endeavors and formulated a blueprint for future phases of this study.

INTEGRATED SERVICE DELIVERY SYSTEM

The Joint Center contracted with the Dade County Department of Human Resources to provide technical assistance in developing an integrated approach to organizing the various public and private agencies in the county now handling the community's social services. The tasks included:

- 1) developing, preparing and conducting orientation, briefing and training activities for a neighborhood coordinating center in Coconut Grove and
- 2) developing, preparing and conducting a monitoring and evaluation one to three months after a commencement of operations.

MIAMI BEACH BUDGET REVIEW

PROJECT DIRECTOR: James Nicholas, Assistant Director
Joint Center for Environmental and Urban Problems

The Joint Center served in a consulting and staff capacity to the City of Miami Beach's Budget Advisory Committee to develop expenditure standards and to make budgetary recommendations for the city's 1975-76 budget. Examples of the kind of information provided by this study by the Joint Center includes an analysis of the number of city employees per 1,000 population by major category compared to other cities in Florida, per capita expenditures by major categories, per capita non-exempt property valuations, municipal charges and municipal utility charges.

ROUTING FOR SOLID WASTE COLLECTION

PROJECT DIRECTOR: Frank O. Hadlock, Assistant Professor, and Frederick Hoffman,
Associate Professor
Department of Mathematics
Florida Atlantic University

This project includes development of a library of route block patterns

for both-sides-of-the-street solid waste collection to be used as the basis for a modular approach to routing trucks. This routing process aims to minimize distance, eliminate unnecessary U-turns, and given these constraints, to minimize turns. The study results are designed to aid cities in improving the efficiency of their solid waste collection operation to reduce costs. It is estimated that 75 to 85 percent of a city's or county's costs in solid waste management are attributed to collection. Workshops were held for South Florida cities interested in using the project data and implementing time-saving programs in their municipalities, and Boca Raton plans to use the techniques to redesign its system.

FIRE AND RESCUE SERVICE STUDY II

PROJECT DIRECTORS: A. C. Shershin, Associate Professor of Mathematics, and
J. Meredith, Assistant Professor of Management
Florida International University

Focusing on systems in Dade and Broward counties, this project's main effort in Dade County is to adapt a RAND allocation computerized model which will assist fire/rescue personnel in deciding where, throughout the county, to place their Emergency Medical Services (EMS) vehicles. In Broward County, the county's EMS director has requested assistance in determining a proper grid map for reporting of accidents responded to by EMS, and the RAND models will be made operational in Broward County, also. This project also aims at coordinating rescue services between Dade and Broward counties.

OTHER URBAN STUDIES

In addition to the service delivery/productivity management grants, contracts and applied research studies conducted by FAU and FIU faculty members, the Joint Center has been involved in a wide range of other urban-related projects covering such areas as housing, transportation, and general local

government structure. During the academic year 1974-75, these projects, all of which were funded by a grant or contract or on an "in-house" basis, included:

COUNTY GOVERNMENT UPDATE

This study of Florida's 18 largest metropolitan counties was partially initially funded by the State Commission on Local Government and is aimed at providing a data base of fiscal, functional and structural categories. This information model will be updated from time to time and be made available to state and local governments in Florida. In the spring of 1975, copies of a summary of findings and the portion of the study pertaining to each county was sent to each county for review and suggestions for future study areas.

INTERLOCAL AGREEMENTS

PROJECT DIRECTOR: Jeanne DeQuine, Research Associate
Joint Center for Environmental and Urban Problems

In conjunction with the state Department of Community Affairs, the Joint Center assembled a "how-to" manual providing a checklist for administrators to follow in the development of inter-local agreements as one solution to the increasing difficulty of providing services in a rapidly growing state. A follow-up study determining what interlocal agreements local governments actually utilize is also underway.

REGIONAL HOUSING STUDY

PROJECT DIRECTOR: Carolyn Lawrence, Research Associate
Joint Center for Environmental and Urban Problems

The Joint Center contracted with the State Department of Community Affairs to formulate the framework for a Regional Housing Center (RHC) for State Planning Region 10 (the six coastal counties in southeast Florida). The Department of Community Affairs appointed a policy advisory committee, and the

Joint Center conducted studies to describe the current state of the housing management industry in South Florida and to obtain rough estimates of the industry's regional supply and demand. The project also included identifying basic characteristics of on-site housing managers of condominiums and multi-family rental units of 25 and over, developing training programs for housing managers, and conducting management training sessions in Boca Raton and Miami.

The Regional Housing Center staffed by the Joint Center is one of several established by the state with the broad intended purpose of initiating action and assisting other governmental and non-public agencies to improve the quality of housing in the region, particularly for low and moderate income families. In late 1975, the RHC staffed by the Joint Center organized itself into three task forces and plans an active year. The three task forces are 1) Communications, 2) Finance/Research, and 3) Management Performance Standards/Development of Region 10 Housing Curricula.

MODEL STATE LEGISLATION

ACIR is a national bipartisan organization created by Congress to continually study and make recommendations on the relationship between federal, state, and local governments. In early 1975, ACIR secured a grant from the Department of Housing and Urban Development to update its program of suggested state legislation and subcontracted with the Joint Center to provide much of the technical assistance and logistical support. The Joint Center was assisted by consultants from Tallahassee and Washington, D.C.

The following ten subject areas were covered in this effort: (1) structure and processes of state government; (2) local governmental structure and processes; (3) local government finance and management; (4) state and local taxation; (5) environment, land use and growth policy; (6) housing and community development; (7) transportation; (8) health; (9) education; and

(10) criminal justice. Copies of the suggested legislation are made available to governors, state attorneys-general, state legislative service agencies, legislative leaders, standing committee chairpersons, and interested organizations and citizens for use as a point of departure for a state legislature preparing bills.

THE ECONOMY OF THE SOUTH FLORIDA COASTAL ZONE

PROJECT DIRECTOR: James Nicholas, Assistant Director
Joint Center for Environmental and Urban Problems

Prepared for the South Florida Regional Planning Council, this project covered Palm Beach, Dade, Martin, and St. Lucie counties and provided extensive data on regional trends in employment, tourism, fisheries, seasonality, income and retail sales, housing, retirees, banking, assessment, education and ports. The study is part of the state of Florida's effort to meet the requirements of the federal coastal zone legislation.

BROWARD COUNTY TRANSPORTATION STUDY

PROJECT DIRECTOR: Linda Gortmaker, Research Associate
Joint Center for Environmental and Urban Problems

The Joint Center has contracted with the Broward County Commission to conduct a comprehensive study of the organization and structure of transportation units in Broward County. This study was mandated by the Broward County charter approved by the county's voters in November 1974. The study includes a general inventory of resources in the county's transportation systems and will make recommendations for possible alternative organizational structures.

MASS TRANSIT IMPACT STUDY DESIGN

PROJECT DIRECTOR: Joseph Thomas, Research Associate
Joint Center for Environmental and Urban Problems

A coordinated effort with the South Florida Regional Planning Council,

this project is aimed at developing research objectives for the "South Florida Transit Impact Study Design," the first phase of a long-term commitment by the Regional Planning Council to analyze transit impacts upon South Florida. This initial study design is funded by the Urban Mass Transportation Administration. A central concern of the study will be the land use impact of an urban mass transit system.

PERISHABLE DATA SYSTEM

As part of the Joint Center's involvement with the South Florida Regional Planning Council's "South Florida Transit Impact Study Design," the purpose of this study was to define immediate and perishable data collection priorities and the interim monitoring and evaluation procedures that should be incorporated in the initial stages of the overall impact monitoring and evaluation program. In late 1975, the Joint Center received a follow-up grant from the Urban Mass Transportation Administration (UMTA) to further develop strategy and actually begin data collection.

RESOURCE RECOVERY STUDY

PROJECT DIRECTOR: Carolyn Lawrence, Research Associate
Joint Center for Environmental and Urban Problems

The Florida Resource Recovery and Management Advisory Council recently contracted with the Joint Center to examine institutional issues affecting regional approaches to the recovery of resources (i.e., materials and/or energy reclamation from solid waste) in 21 metropolitan areas in Florida. This examination will include a comparative analysis of various legal instruments, special acts and general enabling legislation and local authority as well as potential fiscal or attitudinal impediments of which the Resource Recovery Council must be aware to designate geographic regions of resource recovery.

ACTIVITIES AT FLORIDA INTERNATIONAL UNIVERSITY

While the central offices of the Joint Center are located in Fort Lauderdale, the Joint Center also maintains offices on the main campus of Florida Atlantic University and Florida International University, where a variety of additional programs are carried out.

During 1974-75, the Florida International University office experienced reorganization and program expansion. The Center was expanded to include the Institute for the Development of Human Resources, its staff and its programs, and the Director of the Institute was appointed as Assistant Director of the Joint Center.

Two Miami-based activities coordinated under the direction of the Assistant Director focused on transportation issues and national urban development programs. In January, the Assistant Director was responsible for the International Joint Development Conference held in Miami, which provided for the opportunity for the discussion between cities and national governments on the issue of transportation and joint land use planning and implementation.

In February, a South Florida Urban Research Strategies conference was held and attended by local officials, agency heads and representatives from academic sectors in three counties. The conference, of which the Joint Center's Assistant Director was Conference Chairman, featured a discussion by Michael H. Moskow, former Assistant Secretary of Policy Development and Research at HUD.

Several FIU campus presentations were sponsored during this year including lectures by Peter Baljet, former Executive Director of the Florida Department of Pollution Control, members of the Dade County Planning Department and professors from other state universities.

The Center also prepared and published a "Summary Report of the Dade

County Bottle Ordinance" which was prefaced by Metro Commissioner Harvey Ruvin and which was distributed upon request to such interested parties as the Mayor of Los Angeles, the New York Public Interest Research Group, the Environmental Defense Fund and committees within the U. S. House of Representatives.

Among the continuing projects of the FIU Joint Center office is the publication of the semi-annual Spanish edition of Florida Environmental and Urban Issues which is distributed to approximately 500 members of the Dade County Hispanic community.

In addition, the FIU Center office monitors as many Dade County environmental and urban issues as possible and continues to act as an information center for members of the university community as well as the community at-large in Dade County.

PUBLICATIONS

The Joint Center publishes a bi-monthly journal, Florida Environmental and Urban Issues, which emphasizes concerns of a regional nature and has a diverse readership of about 5,500 public officials, business leaders, local and state government decision-makers, academicians, environmentalists and other interested community members, mainly in Florida. Recent editions have included articles that analyze pertinent state legislation affecting local governments, describe new trends in growth management and keep readers up-to-date on Joint Center research activities, in addition to a variety of other topics. A primary emphasis of the Journal is on putting applied research results in the hands of those persons and agencies most likely to use them.

JOINT CENTER LIBRARY

Since the Joint Center's establishment in 1972, it has been building a library of basic urban and environmental material including federal, state and

local government documents, maps, periodicals and major works in the field. Interested community members in the South Florida area are encouraged to browse through the Joint Center's collections to obtain information, and frequently staff members serve as resource persons and send copies of pertinent material on request.

WORKSHOPS, SEMINARS

During the academic year 1974-75, the Joint Center sponsored seminars and workshops dealing with such topics as charter government, land use planning, growth management in England compared to the United States and routing for municipal solid waste collection. These workshops serve to carry the applied research project results to local government officials, civic groups, and other interested citizens, and also to expose lay citizens to expertise in timely environmental and urban issues.

OUTREACH ACTIVITIES OF THE JOINT CENTER

In addition to involvement in the applied research activities of the Joint Center, staff members at the Center are active participants in both private and public bodies on national, state, regional and local levels.

The Director serves on the governing board of the Central and Southern Florida Flood Control District and on the Southern Growth Policies Board. He is a member of the National Academy of Public Administration panel on Neighborhood-Oriented Metropolitan Government. He has served in a consulting capacity to the National Governors Conference, the Academy for Contemporary Problems, the Urban Policy Roundtable, the National Municipal League, and other groups geared towards solving environmental and urban problems. He is also the Florida monitor for the Brookings Institution Revenue Sharing and Community Development Bloc Grant Projects.

On a state level, the Director continues to provide input, especially regarding legislation in the environmental and urban areas, to legislative and executive agencies in Florida. His key role during the early 1970s in the land use/environmental area (Chairman of the Governor's Conference on Water Management in South Florida and Chairman of the Governor's Task Force on Land Use in Florida in 1971-72) and in the urban area (Chairman of the Governor's Commission on Local Government, 1972-74) have been followed by other commitments to state-wide bodies.

In addition, Dr. DeGrove has served as the Director of Regional American Assemblies, 1970 (States and the Urban Crisis); 1972 (Collective Bargaining in the Public Sector); and 1974 (Land Use).

The outreach activities of the Assistant Director at FAU have included drafting recommendations for revising state demographic estimating techniques, speaking before the U. S. Senate Committee on Interior and Insular Affairs on

national land use legislation, testifying as an expert witness in cases on population caps and nuclear power and other activities for national, state and local groups.

Besides their membership in professional organizations, Research Associates at the Center participate in community and state activities, and one Research Associate is currently president of the Gold Coast Chapter of the American Society for Public Administration. Another Research Associate is on the Board of Directors of the Dade-Monroe Lung Association and sits on their Air Conservation Committee.

CENTER ACTIVITIES 1972-74

CENTER ACTIVITIES

Since its establishment in 1972, the Joint Center has awarded applied research grants to faculty members at Florida Atlantic University and Florida International University, conducted "in-house" research, and contracted with various private and public agencies for technical assistance and other programs. In addition to Center activities such as workshops, seminars, and other information exchanges, the Joint Center funded the following specific research projects on environmental and urban topics during the two year period between July 1, 1972, and June 30, 1974:

ENVIRONMENTAL

ENVIRONMENTAL EDUCATION STRATEGY PAPER

The Joint Center, under an agreement with the Board of Regents, prepared a strategy paper in the area of developing an interdisciplinary approach to Environmental Education and Political Science.

The following environmental research projects were undertaken by the Joint Center during 1972-74 as applied research grants awarded to faculty members of Florida Atlantic University and Florida International University.

DEVELOPMENT OF A NOISE MODEL FOR A CITY

PROJECT DIRECTOR: Stanley E. Dunn, Assistant Professor of Ocean Engineering
Florida Atlantic University

This study was designed to develop a model of noise prediction which can be used as a tool for community planners. Dr. Dunn has also received funds from the Florida Department of Pollution Control to carry out noise sample studies in Dade County and recommended an improved noise control program for the county. Through the Florida Department of Transportation, a study of traffic noise in the Golden Glades Interchange in Dade County is also being

completed. Urban noise in the Golden Glades Interchange in Dade County is also being completed. Urban noise studies have also been carried out in Pompano Beach, Vero Beach, Boca Raton, North Palm Beach, Palm Beach Gardens and Lake Park and have resulted in the adoption and modification of ordinances in a number of cities including Pompano Beach, Palm Beach Gardens and North Palm Beach.

STUDIES ON POLLUTION IN MARINE WATERS ADJACENT TO SEWAGE OUTFALLS

PROJECT DIRECTORS: Harrison A. Hoffman, Professor of Microbiology, and
James X. Hartman, Assistant Professor of Microbiology
Florida Atlantic University

This study's purpose was to run experimental tests on the survival and distribution of pathogenic bacteria and enteric viruses in a marine environment with sewage to 1) determine the number and distribution of Staphylococcus Aureaus and enteric viruses in the marinewaters between a sewage outfall and the beaches; 2) to determine whether Staphylococcus Aureaus is a more reliable indicator of pollution in marine waters than is the coliform count; 3) to test the validity of the fluorescent-antibody method for testing pollution by domestic sewage in the marine environment; and 4) to determine whether current sewage outfalls on the southeast coast are a public health hazard. Actual studies were conducted on the Pompano Beach outfall and the project directors were asked to present their findings to the Miami City Council.

A LINEAR MODEL OF AUTOMOBILE EXHAUST POLLUTANTS

PROJECT DIRECTORS: Ruth Weiner, Professor of Physical Sciences, and
James R. Story, Assistant Professor of Mathematics
Florida Atlantic University

This study followed an interdisciplinary research approach to the study of air pollution adjacent to expressways in Dade County and was aimed at the development of a technique which could be used to forecast and study the pollution consequences of existing and planned expressways.

AN ECOLOGICAL SURVEY OF THE INTRACOASTAL WATERWAY AT BOCA RATON

PROJECT DIRECTOR: G. Alex Marsh, Assistant Professor of Ecology
Florida Atlantic University

Despite intensive shoreline development, pollution and heavy boat traffic, the intracoastal waterway in South Florida continues to be a vital habitat for many forms of marine and estuarine life. This study was undertaken to provide essential biological information on the waterway so that state, local and federal agencies can adequately assess the ecological impact of proposed developments and alteration of the waterway and adjacent shoreline. Information from this study provided the basis for an additional \$3,600 grant from the Palm Beach County Health Department for a more detailed study of the

ecology of finger canals. Study data was also influential in bringing about a recommendation from the U. S. Fish and Wildlife Service that a dredge-and-fill development along the Intracoastal Waterway which would destroy 30 acres of mangrove swamp would be disapproved. This negative recommendation from USFWS has prevented the issuance of necessary permits from the U.S. Army Corps of Engineers. Also, study data provided much of the impetus for a Comprehensive Water Use Plan now being prepared by a consultant for the City of Boca Raton.

A FEASIBILITY STUDY OF MANDATORY DEPOSITS AND STANDARDIZATION OF BEVERAGE CONTAINERS

PROJECT DIRECTOR: John Parker, Associate Professor of Physical Sciences
Florida International University

This project assessed the short and long-run economic and environmental impact and feasibility of implementing a mandatory system for deposits and standardization of beverage containers in Dade County. The study included 1) a survey and analysis of litter at certain parks and along certain streets in Dade County; 2) an overall analysis of the environmental and economic impact of Oregon's "Bottle Bill;" 3) a study of the current economics of the bottling industry in Dade County; and 4) a survey of grocers on the effect of beverage container legislation. Data from the study were used in an effort in Dade County to adopt a "bottle bill" ordinance.

SUSPENDED PARTICULATE MATTER IN THE WATERS OF THE SOUTH FLORIDA CORAL REEF

PROJECT DIRECTOR: John W. Sheldon, Associate Professor of Physical Sciences
Florida International University

This project was aimed at developing ways to determine the particle size distribution, mobility and light scattering characteristics of the silt in turbid water caused by dredge and fill processes, boat traffic and other activities in the waters east of the Keys from Miami to Key West. This area marks the location of the coral reef, a natural habitat for a multitude of sea life that supports commercial and sport fishing and diving. By determining these quantitative characteristics of the silt, the project researchers hope to obtain information that could be valuable in obtaining legal solutions to the problems of reef abuse.

IMPACT ASSESSMENT OF ENERGY CONTROL MEASURES IN DADE COUNTY AND THE SOUTH FLORIDA AREA

PROJECT DIRECTOR: Dieter Klein, Assistant Professor of Management
Florida International University

This study summarizes an analysis of monthly residential electric consumption in Dade County, Florida. The results of the analysis are summarized in an electric consumption profile of the average Dade County residence, and this profile was matched with the state and national profile.

URBAN

AN EVALUATION OF COMMUNITY ACTION AGENCIES IN PALM BEACH COUNTY

The Joint Center provided an assessment of the planning process among the various community action planning and coordinating agencies serving Palm Beach County. The Center made written recommendations about the working relationships among these agencies that could provide a unified planning and priority setting process for human needs and resources for Palm Beach County citizens. These recommendations continue to be the basis of ongoing reorganization efforts.

MONITORING THE ORGANIZATION AND RELATED MATTERS OF THE RURAL IMPROVEMENT COUNCIL

The Joint Center staff was involved in monitoring a federal grant from the Office of Health Affairs, Office of Economic Opportunity, to the Rural Improvement Council. This monitoring included certifying, organizing and developing the Board of Directors and related matters of the Rural Improvement Council, Inc., a non-profit organization charged with providing comprehensive health services to migrants in the South Florida area.

The following urban research projects were undertaken by the Joint Center during 1972-74 as applied research grants awarded to faculty members at Florida Atlantic University and Florida International University.

SHORT TERM FORECASTS OF CRIMINAL ACTIVITY IN FLORIDA

PROJECT DIRECTORS: Lee R. McPheters and William Stronge, Assistant Professors
of Economics
Florida Atlantic University

This study utilizes historical data on monthly crimes by type of offense obtained from police departments of five Florida metropolitan areas - Miami, Tampa, St. Petersburg, Jacksonville and Gainesville. The research was aimed at developing methods, procedures and supporting computer software for time series analysis and short run forecasting of crimes by type in selected metropolitan areas.

PHYSICIAN LOCATION IN SOUTHEAST FLORIDA

PROJECT DIRECTOR: Ronald Schultz, Assistant Professor of Geography
Florida Atlantic University

This project is an analysis of physician office location in Southeast Florida (Dade, Broward, and Palm Beach Counties). The study focused on past,

present and probable future physician location patterns and thus aimed at identifying the type and magnitude of particular physician need within the region. Results from this study were shared with the Dade County Health Planning Council.

OPTIMIZING THE INITIAL PHASES OF JUROR SELECTION

PROJECT DIRECTORS: Steven Altman, Assistant Professor of Business Administration
Alan J. Parker, Associate Professor of Business Administration
Florida International University

To meet the needs of Dade County in modernizing its court system, this study included an analysis of the initial phases in juror selection. Dade County had been under attack on the grounds that the initial juror selection was not representative and that certain groups were systematically excluded from the process. Also, a national study was conducted to determine where Dade County stood in relation to other systems in the United States. Subsequent to this study, the researchers worked with various county agencies to automate the selection system and bring it into conformity with generally accepted principles of juror selection.

RENT DIFFERENTIALS AMONG RACIAL AND ETHNIC GROUPS IN DADE COUNTY, FLORIDA

PROJECT DIRECTOR: James Nicholas, Associate Professor of Economics
Florida Atlantic University

This project's purpose was to gather data and study patterns of rent differentials among racial and ethnic groups in Dade County. The study looked into the broader definition of discrimination because the narrow definition failed to explain rent differentials. In addition to rent differentials, other mechanisms of discrimination were investigated that included differential availability of rental units and differential security-deposit requirements.

SICKLE CELL ANEMIA AND GENETIC COUNSELING

PROJECT DIRECTOR: Jack Meredith, Assistant Professor, Division of Organization and Administration
Florida International University

This study, done in cooperation with the Dade County Public Health Service Sickle Cell Anemia Project, had the objective of using sickle cell data to obtain a population prognosis for the trait under varying assumptions regarding fertility, morbidity, miscegenation and genetic education. The study sought to discover ways of predicting the expected prevalence of the trait in future generations and what factors will affect the prevalence most. Findings were shared with the National Center for Health Services Research, National Sickle Cell Disease Program of HEW, the Sickle Cell Anemia Research and Education Foundation in San Francisco, and the Sickle Cell Disease Research

Foundation in Los Angeles.

AN ANALYSIS OF THE MOBILE HOME AS AN ALTERNATIVE SOURCE OF HOUSING IN FLORIDA

PROJECT DIRECTOR: Gloria Boyd, Graduate Student, Department of Political
Science
Florida Atlantic University

This study proposed three objectives: 1) to determine if mobile homes are feasible as an alternative form of housing in Florida considering such factors as cost, safety, land use and political issues; 2) to investigate why, if mobile homes are a feasible alternative, they are not used more by low income families as a form of housing; and 3) to determine what, if any, legal and political restraints against mobile homes exist and how they might be resolved.

POPULATION SIZE AS A DETERMINANT OF CITY REVENUES, EXPENDITURES AND EMPLOYMENT IN FLORIDA

PROJECT DIRECTOR: Milton Redman, Assistant Professor of Economics
Florida Atlantic University

This research project was designed to examine the relationship between revenue-expenditure patterns of various size cities in Florida and population and other socio-economic characteristics. The data was used by various agencies including the State Department of Community Affairs Division of Technical Assistance.

FORECASTING DEMANDS FOR POLICE SERVICES

PROJECT DIRECTORS: Lee R. McPheters and William B. Strong
Assistant Professors of Economics
Florida Atlantic University

The intent of this project was to determine if calls for police services have statistical properties which enable daily forecasting of calls for service by category of call. Such forecasts would be useful to police agencies for planning manpower allocations, patrol car downtime and for use in other resource allocation considerations.

ORGANIZATIONAL CLIMATES IN SOUTH FLORIDA HOSPITALS

PROJECT DIRECTOR: E. Turban, Professor of Management
Florida International University

This project had the ultimate goal of providing hospital administrators in South Florida, and possibly other health administrators, with a questionnaire and a method of analysis enabling them to 1) identify problem areas; 2) measure

the impact of changes, such as manpower planning and affirmative action programs; 3) better predict and explain organizational behavior; 4) conduct interdepartmental and intra-industry comparisons; and 5) identify the extent to which costs of turnover are related to hospital climate. Questionnaires were sent to 50 hospitals in Dade and Broward Counties to use and Jackson Memorial has implemented it.

AN EXPLORATORY STUDY OF LATIN AMERICAN CULTURAL VALUES RELATED TO URBAN GROWTH POLICY PLANNING

PROJECT DIRECTORS: E. Lamar Ross, Assistant Professor of Anthropology, and
Nicholas G. Sileo, Professor of Sociology
Florida International University

This research project was an exploratory attempt to link data on attitudes, behavior and program demands to societal structures in which they occur. The study population was selected from the Dade County Metropolitan Area Latin American population, and was designed with the intention of providing policy makers with a manageable framework for evaluating policy alternatives related to ethnic minorities in the areas of housing and growth planning.

COMMUNICATION AND GOVERNMENT RESEARCH PROJECT

PROJECT DIRECTOR: Voncile Smith, Associate Professor of Communication
Florida Atlantic University

The purpose of this project was 1) to obtain information on the in-service and pre-service needs of reporters for both print and electronic media in the fields of education, government and urban and environmental affairs and 2) plan and conduct a series of workshops and seminars to meet these needs.

URBAN MASS TRANSIT CONFERENCE

PROJECT DIRECTOR: Edward Isibor, Associate Professor
Division of Environmental and Urban Systems
Florida International University

This project resulted in an Urban Mass Transit Conference held in the summer of 1974 that was devoted to these objectives: to provide a forum for the exchange of technical and other information on the state of the art of mass transit; to provide an educational experience for FIU students, especially those majoring in the transportation field; to promote citizens' participation in the transportation planning process; and to underline the contribution of Florida International University towards solving one of the pressing problems of the greater Miami area.

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